

**Proposed Standards for the Management of
Hazardous Waste Solar Modules**

Department Reference Number: R-2010-01

Legend: Changes are shown from the existing text of the California Code of Regulations, title 22, as:

Underline	<u>underline</u>	Additions to existing text
Underline	<u><u>underline</u></u>	Additions to revised version
Strikeout	strikeout	Deletions to existing text
Strikeout	strikeout	Deletions to revised version

For the convenience of the reader, existing text is shown as plain text, text deleted from existing text is shown as strikeout (~~strikeout~~), and text deleted from 45-day notice version is shown as double strikeout (~~~~strikeout~~~~). Added text is shown as underline (underline) and added text from 45-day notice version is shown as double underline (underline).

Amend California Code of Regulations, title 22, division 4.5, Table of Contents, chapter 23 to read as follows:

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Chapter 23. Standards for Universal Waste Management

Article 1. General

§66273.1. Scope.

§66273.7.1. ~~[Reserved.] Applicability—Solar Modules.~~ Photovoltaic Modules

Article 3. Standards for Universal Waste Handlers

§66273.30. Applicability.

§ 66273.33. Universal Waste Management Requirements for Batteries, Lamps, and Mercury-Containing Equipment, ~~and Solar Modules.~~ Photovoltaic Modules

Amend California Code of Regulations, title 22, division 4.5, chapter 10, article 2, section 66260.10 to read:

§ 66260.10. Definitions.

When used in this division, the following terms have the meanings given below:

"Soil-pore liquid" means the liquid contained in openings between particles of soil in the unsaturated zone.

"Solar module" Photovoltaic (PV) Module"

(a) means ~~(a) any one or more of the following, except as provided in subsection (b) of this section:~~

(1) any photovoltaic ~~module or other photovoltaic~~ device that ~~collects energy~~ converts photons from the sun for the purpose of converting the photons light into ~~electrons electricity for general~~ electricity for general use including: ~~any removed intact PV module component removed therefrom.~~

(A) An "intact" PV module. "Intact PV module" includes:

~~(2) "intact" solar~~

(i) PV modules ~~are solar~~ PV modules or individual cells of disassembled PV modules that are complete with no component removed or missing (e.g., solar PV modules that are non-functional and which contain glass panes on one or both sides of the module, where the glass may have been that are cracked or otherwise damaged, and provided that the size and shape of such a the module or cell remain identical to those of a newly installed solar PV module or of a cell from a newly disassembled module, respectively, regardless of whether the PV modules or cells are functional or nonfunctional. "Intact" solar PV modules also include solar

(ii) PV modules that do not contain glass and which are otherwise non-functional (e.g., flexible membrane ~~solar~~ PV modules).

~~(3) (B) A "Removed intact PV module components"~~ "Removed intact PV module components" means frames, junction boxes, wires, and cables that are intact and have been removed from PV modules.

(b) ~~"Solar PV module" excludes all of the following~~ Does not mean:

(1) physically-damaged, -deteriorated, or -altered ~~solar~~ PV modules ~~(or components thereof), including that are no longer recognizable as intact solar PV modules, as defined in subsection (a) of this section.~~

(2) fractured or fragmented portions of a ~~solar~~ PV module, ~~although that are no longer recognizable as being part of a solar PV module, which are no longer attached to an intact solar PV module, as defined in subsection (a) of this section.~~

(3) solar-powered electronic devices that have one or more ~~solar~~ photovoltaic cells incorporated into their structures.

"~~Solar~~ PV module vendor" means the manufacturer, producer, marketer, or distributor of ~~solar~~ PV modules, or a third party entity acting on behalf of such manufacturer, producer, marketer, or distributor, located within the United States and its territories, who administers a ~~solar~~ PV module reclamation program and who accepts (for reclamation) one or more ~~solar~~ PV modules that are subject to the conditions for the exemption in section 66261.6 of chapter 11 of this division.

"Solid Waste Management Unit" means any unit at a hazardous waste facility from which hazardous constituents might migrate, irrespective of whether the units were intended for the management of wastes, including but not limited to: containers, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators and underground injection wells.

NOTE: Authority cited: Sections 25141, 25150, 25158.1, 25158.4, 25159, 25159.5, 25187.7, 25200.10, 25204, 25214.9, 25218.3(d), 25316, and 58012, Health and Safety Code; Governor's Reorganizational Plan #1 of 1991; and Section 42475, Public Resources Code. Reference: Sections 25110.02, 25110.1, 25110.5, 25111, 25112, 25112.5, 25113, 25114, 25115, 25117, 25117.1, 25117.3, 25117.8, 25117.9, 25117.11, 25118, 25119, 25120, 25121, 25121.5, 25122.7, 25123, 25123.3, 25123.5, 25123.6, 25141, 25150, 25158.2, 25159, 25159.5, 25187.7, 25200.10, 25201.6, 25204, 25214.9, 25218.1(f), 25218.3, 25229, 25316, 25354(b), 25355.5, 25355.6, 25356.9, 25358.1, 25358.9, 25359.8, 25361, 25501, 25529 and 58012, Health and Safety Code; 40 CFR Sections 260.10, 261.1, 262.21, 264.551, 264.1031, 268.2, 270.2 and 273.6.

Amend California Code of Regulations, title 22, division 4.5, chapter 11, article 1, section 66261.6 to read:

§ 66261.6. Requirements for Recyclable Materials.

(a)(1) Recyclable materials are subject to the applicable requirements for generators, transporters and facilities of articles 1 and 2 of chapter 16 of this division, except as specified otherwise for the materials listed in subsections (a)(2), (a)(3), (a)(4), (a)(5), and (a)(6) of this section.

(2) The following recyclable materials are also regulated under the articles (of chapter 16 of this division) specified below, and all applicable provisions in chapters 20 and 21 of this division:

(A) [RESERVED];

(B) hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under article 15 of chapter 14 or 15 of this division are regulated under article 8 of chapter 16 of this division.

(C) spent lead-acid storage batteries that are being reclaimed are regulated under article 7 of chapter 16 of this division;

(D) recyclable materials that are being used in agriculture are regulated under article 8.5 of chapter 16 of this division;

(E) waste elemental mercury that is being recycled is regulated under article 9 of chapter 16 of this division.

(3) The following are not subject to regulation under this division, and are not subject to the notification requirements of Health and Safety Code section 25153.6:

(A) materials that can be shown to be recycled by methods identified in subdivisions (b), (c) or (d) of Health and Safety Code section 25143.2; and

(B) scrap metal as defined in section 66260.10. However, scrap metal that meets the definition of a RCRA hazardous waste is not subject to regulation under this division and is not subject to the notification requirements of Health and Safety Code section 25153.6, only when the scrap metal is being recycled; and

(C) hazardous wastes that exhibit the characteristic of toxicity specified in section 66261.24(a)(1) and do not exhibit any other characteristic of a hazardous waste specified in article 3 of this chapter (commencing with section 66261.20), are not listed in article 4 of this chapter (commencing with section 66261.30), and that qualify as one of the materials specified in 40 CFR section 261.6(a)(3) (incorporated by reference in section 66260.11).

(D) ~~solar~~ PV modules destined for reclamation within the United States and its territories in a program administered by a ~~solar~~ PV module vendor provided that the conditions in subsection (a)(8) of this section are met. However, such ~~solar~~ PV modules are subject to regulation as described in subsection (a)(8)(~~4~~) of this section upon arrival at a designated facility located in California.

(4) The following are prohibited as specified:

(A) the use of material (e.g., waste, used oil or other material) which is contaminated with dioxin or any other hazardous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment is prohibited;

(B) the use of used oil as a road oil, dust suppressant or weed control agent is prohibited, except as provided otherwise in Health and Safety Code section 25250.5.

(7) Hazardous waste that is exported to or imported from designated member countries of the Organization for Economic Cooperation and Development (OECD) (as defined in 40 CFR section 262.58(a)(1) or section 66262.58(a)(1)) for purpose of recovery is subject to the requirements of 40 CFR Part 262, Subpart H or this article, if it is subject to either the Federal manifesting requirements of 40 CFR Part 262, or to the universal waste management standards of 40 CFR Part 273.

(8)(A) ~~Solar PV~~ modules shall be managed in a manner that prevents breakage and prevents releases from any ~~solar PV~~ modules or of any hazardous component of a ~~solar PV~~ module to the environment under reasonably foreseeable conditions pursuant to the requirements of this section.

(B) ~~Only intact solar PV modules shall be managed.~~ Any ~~solar PV~~ module or container of ~~solar PV~~ modules that shows evidence of leakage or damage that could cause a release of hazardous constituents to the environment shall be managed and contained in the same manner as are universal waste ~~solar PV~~ modules pursuant to section 66273.33, subsection (d) of chapter 23 of this division.

(C) A ~~solar PV~~ module or container of ~~solar PV~~ modules shall be labeled with the following phrase: "~~Solar PV~~ Modules--Not Scrap Metal or CRT Glass".

(D) ~~Any spills or releases of if a solar PV module becomes broken such that fragments of the module may be released into the environment, the PV module vendor or hazardous components thereof shall be cleaned up immediately place the PV module in a container to prevent such release under reasonable foreseeable conditions. Any releases of any hazardous constituent from a PV module thereof shall be cleaned up immediately and shall be managed and contained pursuant to subsection (a)(8)(B) of this section.~~

(E) A ~~solar PV~~ module shall be accumulated by any person for no longer than one year from the date the ~~solar PV~~ module became a waste.

(F)1. A PV module vendor may remove wires, cables, and metal frames, and conduct manual disassembly of PV modules into individual components, modules, or cells as part of a program administered by a PV module vendor under subsection (a)(3)(D), provided that

a. The PV module vendor does not conduct activities that involve the use or application of external heat and/or chemicals, including water; and

b. Persons performing these activities are thoroughly familiar with the techniques and safety precautions required to perform them safely.

2. The PV module vendor shall manage any materials generated through manual disassembly of PV modules pursuant to all applicable requirements of this division.

~~(FG) A person who transporter of solar PV modules as part of a program administered by a PV module vendor shall manage solar PV modules in compliance with the requirements of do so pursuant to article 5 of chapter 23 of this division. The person may accumulate PV modules at a transfer facility during the course of transportation pursuant to the, including but not limited to solar PV module transport in accordance with universal waste transfer facility requirements in section 66273.53 of this division.~~

~~(GH) A person who transporter of solar PV modules as part of a program~~

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administered by a PV module vendor shall not deliver solar PV modules to a place other than to a reclamation facility within the United States and its territories designated by the solar PV module vendor, provided, however, that the PV modules must be delivered to the designated reclamation facility within one year from the date the PV modules became a waste, as defined in subsection (c) of Section 66273.7.1 (e) of Article 4 of Chapter 23 of this division, who is administering the solar PV module reclamation program.

(H) A person is prohibited from exporting solar PV modules unless export is conducted in accordance with applicable export requirements for hazardous universal waste as described in Article 4 of Chapter 23 chapter 12 of this division.

(I) Solar PV modules shall be recycled by being reclaimed at the a designated reclamation facility, including recovery of the hazardous constituents which cause the solar PV module to be classified as hazardous waste pursuant to article 3, chapter 11 of this division.

(J) Any solar PV module vendor who administers a solar PV module reclamation program as described in this subsection shall submit to the Department at the address given in this subparagraph, a written notification containing the information specified in this subparagraph no later than 30 calendar days prior to executing the solar PV module reclamation program. A PV module vendor shall provide written notice updating the information specified in this subparagraph as necessary.

1. This notification shall include:

- a. Name of solar PV module vendor;
- b. ID Number of the solar PV module vendor, if applicable;
- c. Telephone number of solar PV module vendor;
- d. Mailing address of solar PV module vendor and physical address, including country and county, if different from the mailing address;
- e. Name of the contact person at the solar PV module vendor's site who should be contacted regarding solar PV module reclamation program activities;
- f. Telephone number of the contact person;
- g. An e-mail address for the contact person or organization, if available;
- h. The types of solar PV modules (e.g., thin-film CdTe/CdS, thin-film CIGS/CdS, thin-film amorphous silicon, thin-film CIGS/InP, crystalline silicon, etc.) expected to be handled;
- i. The sources of the solar PV modules (e.g., residential, commercial, governmental decommissions, etc.); and
- j. The name, address and contact person(s) of any location where any reclamation activities conducted on PV modules pursuant to subsection (a)(8)(J) will be performed; the designated facility or location where the solar PV modules will be reclaimed.
- k. The types of physical separation activities performed pursuant to subsection (a)(8)(F); and
- l. The name, address, and contact person(s) of facilities operated by the PV module vendor where the PV module vendor performs physical separation activities pursuant to subsection (a)(8)(F) for a period of greater than 30 days.

2. ~~Solar~~ PV module vendors shall provide to the Department with any changes to update to the information provided pursuant to subsection (a)(8)(~~J~~K) of this subsection to reflect any changes no later than within 30 days prior to of such changes.

3. Written submissions. Department notifications required pursuant to subsection (a)(8)(J) of this section shall be sent to the Department by certified mail, return receipt requested, at the following address: Department of Toxic Substances Control, ~~Solar~~ PV Module Vendor Notification Staff, P.O. Box 806, Sacramento, CA 95812-0806, with the words "Attention: ~~Solar~~ PV Module Vendor Activities" prominently displayed on the front of the envelope.

NOTE: Authority cited: Sections 25143.2(e), 25150, 25159, 25159.5, 25170, 25179.6, 25201, 25245, 25250.22 and 58012, Health and Safety Code. Reference: Sections 25143, 25143.2, 25150, 25159, 25159.5, 25163, 25170, 25179.6, 25250.5 and 25250.22, Health and Safety Code; and 40 CFR Sections 261.6 and 266.23.

Amend California Code of Regulations, title 22, division 4.5, chapter 11, article 1, section 66261.9 to read:

§66261.9. Requirements for Universal Waste.

(a) The hazardous wastes listed in this section are exempt from the management requirements of chapter 6.5 of division 20 of the Health and Safety Code and its implementing regulations except as specified in chapter 23 and, therefore, are not fully regulated as hazardous wastes. The wastes listed in this section are subject to regulation pursuant to chapter 23 and shall be known as “universal wastes.”

(1) Batteries, as described in section 66273.2, subsection (a);

(2) Electronic devices, as described in section 66273.3, subsection (a);

(3) Mercury-containing equipment, as described in section 66273.4, subsection (a);

(4) Lamps, as described in section 66273.5, subsection (a) (including, but not limited to, M003 wastes);

(5) Cathode ray tubes, as described in section 66273.6, subsection (a);

(6) Cathode ray tube glass, as described in section 66273.7, subsection (a); ~~and~~

(7) Aerosol cans, as specified in Health and Safety Code section 25201.16- ~~and~~

(8) ~~Solar~~ PV modules, as described in section 66273.7.1, subsection (a).

(b) Unless specified otherwise in section 66273.60, universal wastes shall be managed as hazardous wastes pursuant to chapters 10 through 16, 18, and 20 through 22 of this division upon arrival at a destination facility.

NOTE: Authority cited: Sections 25141, 25150, 25150.6, 25201, 25214.9, 25214.10.1, 25219.1 and 58012, Health and Safety Code; and Section 42475-2, Public Resources Code. Reference: Sections 25117.2, 25141, 25150, 25159.5, 25180 – 25196, 25214.5, 25214.9, 25219, 25219.1 and 25219.2, Health and Safety Code; 40 CFR Section 261.9.

Amend California Code of Regulations, title 22, division 4.5, chapter 23, article 1, section 66273.1 to read:

Chapter 23. Standards for Universal Waste Management

Article 1. General

§66273.1. Scope.

(a) This chapter establishes requirements for managing universal wastes, as defined in section 66273.9. The following universal wastes are subject to regulation pursuant to this chapter:

- (1) Batteries, as described in section 66273.2, subsection (a);
- (2) Electronic devices, as described in section 66273.3, subsection (a);
- (3) Mercury-containing equipment, as described in section 66273.4, subsection (a);
- (4) Lamps, as described in section 66273.5, subsection (a) (including, but not limited to, M003 wastes);
- (5) Cathode ray tubes, as described in section 66273.6, subsection (a);
- (6) Cathode ray tube glass, as described in section 66273.7, subsection (a); ~~and~~
- (7) Aerosol cans, as specified in Health and Safety Code section 25201.16-; ~~and~~
- (8) ~~Solar PV~~ Solar PV modules, as described in section 66273.7.1, subsection (a).

(b) This chapter provides an alternative set of management standards in lieu of regulation as hazardous wastes pursuant to chapters 10 through 16, 18, and 20 through 22 of this division. The alternative management standards of articles 1 through 3 of this chapter do not apply to destination facilities, as defined in section 66273.9, except as otherwise specified in section 66273.60, subsections (b) or (c).

NOTE: Authority cited: Sections 25141, 25150, 25150.6, 25201, 25214.9, 25219.1 and 58012, Health and Safety Code; and Section 42475, Public Resources Code.

Reference: Sections 25141, 25150, 25159.5, 25201, 25212, 25214.6, 25214.9, 25219, 25219.1 and 25219.2, Health and Safety Code; 40 CFR Section 273.1.

Add California Code of Regulations, title 22, division 4.5, chapter 23, article 1, section 66273.7.1 to read:

§66273.7.1. [Reserved.] Applicability—Solar PV Modules.

(a) ~~Solar~~ PV modules covered pursuant to chapter 23. The requirements of this article apply to ~~solar~~ PV modules, as defined in section 66273.9, except those listed in subsection (b) of this section.

(b) ~~Solar~~ PV modules not covered pursuant to this chapter. The requirements of this chapter do not apply to the following ~~solar~~ PV modules:

(1) ~~Solar~~ PV modules that are not yet wastes pursuant to chapter 11 as provided in subsection (c) of this section:

(2) ~~Solar~~ PV modules that do not exhibit a characteristic of a hazardous waste as set forth in article 3 of chapter 11 and that are not otherwise identified as hazardous waste pursuant to chapter 11 of this division;

(3) ~~Solar~~ PV modules that are destined for recycling (or are recycled) by being “used in a manner constituting disposal,” as described in section 66266.20, or that are destined for disposal (or are disposed) to a class I landfill. Such ~~solar~~ PV modules shall be managed as hazardous wastes pursuant to chapters 10 through 16, 18, and 20 through 22 of this division;

(4) ~~Solar~~ PV modules that are managed as hazardous wastes pursuant to chapters 10 through 16, 18, and 20 through 22 of this division;

(5) ~~Solar~~ PV modules managed pursuant to section 66261.6(a)(3)(D).

(6) ~~Solar~~ PV modules that were previously identified as waste pursuant to chapter 11, but are no longer identified as a waste (e.g., a discarded ~~solar~~ PV modules that is refurbished and is returned to service).

(c) Generation of waste ~~solar~~ PV modules.

(1) A used ~~solar~~ PV module becomes a waste on the date when ~~the earlier of the following occurs:~~

~~(A) The owner discards the solar PV module (e.g., removes the solar PV module without the intent to re-install it); or~~

~~(B) The solar PV module is physically damaged, deteriorated, or altered and no longer an intact solar PV module as defined in section 66273.9 (e.g., solar PV modules that are cracked, fractured into more than one piece, or fragmented), or otherwise removed from service without intent to re-install it; the PV module is discarded by being removed from service and the owner does not intend to re-install it because the PV module no longer functions as designed, is broken beyond repair, or otherwise cannot be reused.~~

(2) Unused ~~solar~~ PV modules.

(A) An unused ~~solar~~ PV module that is not a retrograde material becomes a waste on the date it is discarded (e.g., when stored prior to being sent for reclamation).

(B) An unused ~~solar~~ PV module that is a retrograde material becomes a waste on the date that it becomes a recyclable material pursuant to subsection (e) of the definition of “recyclable materials” in section 66260.10.

(d) A respondent in an action to enforce regulations implementing this division who claims that a ~~solar~~ PV module is not a waste bears the burden of demonstrating that there is a known market or disposition for its use as a ~~solar~~ PV module.

NOTE: Authority cited: Sections 25141, 25150, ~~25214.6~~ and 58012, Health and Safety Code. Reference: Sections 25141, 25150, and 25159.5 ~~and 25214.6~~, Health and Safety Code.

Amend California Code of Regulations, title 22, division 4.5, chapter 23, article 1, section 66273.9 to read:

§66273.9. Definitions.

When used in this chapter, the terms listed in this section have the meanings given below. Unless otherwise specified, listed terms that cross-reference the definitions of other listed terms refer to the definitions set forth in this section for those other terms. Terms that are also defined in chapter 10 of this division are duplicated here solely for convenience of the regulated community. Terms used in this chapter that are not defined in this section but are defined in chapter 10 of this division and/or chapter 6.5 of division 20 of the Health and Safety Code have the meanings given in those sources.

"Scrap metal" means (a) any one or more of the following, except as provided in subsection (b) of this section:

- (1) manufactured, solid metal objects and products;
- (2) metal workings, including cuttings, trimmings, stampings, grindings, shavings and sandings;
- (3) solid metal residues of metal production; or
- (4) printed circuit boards that are recycled [except for printed circuit boards referenced in subsec. (b)(7) of this section].

(b) "Scrap metal" excludes all of the following:

- (1) lead-acid storage batteries, waste elemental mercury, and water-reactive metals such as sodium, potassium and lithium;
- (2) magnesium borings, trimmings, grindings, shavings and sandings and any other forms capable of producing independent combustion;
- (3) beryllium borings, trimmings, grindings, shavings, sandings and any other forms capable of producing adverse health effects or environmental harm in the opinion of the Department;
- (4) any metal contaminated with a hazardous waste, such that the contaminated metal exhibits any characteristic of a hazardous waste under article 3 of chapter 11 of this division;
- (5) any metal contaminated with an oil that is a hazardous waste and that is free-flowing;
- (6) sludges, fine powders, semi-solids and liquid solutions that are hazardous wastes; and
- (7) any printed circuit board that has been removed from a universal waste electronic device by a universal waste handler as a result of the handler's conduct of activities authorized by sections 66273.71, 66273.72, and/or 66273.73 of chapter 23 of this division and is subject to management as a hazardous waste pursuant to sections 66273.71, 66273.72 and/or 66273.73.

~~"Solar module" Photovoltaic (PV) Module":~~

~~(a) Means (a) any one or more of the following, except as provided in subsection (b) of this section:~~

~~(1) any photovoltaic module or other photovoltaic device that collects energy converts photons from the sun for the purpose of converting the photons light into electrons electricity for general electricity for general use including: any removed intact PV module component removed therefrom.~~

~~(A) An "intact" PV module. "Intact PV module" includes:~~

~~(2) "intact" solar~~

~~(i) PV modules are solar PV modules or individual cells of disassembled PV modules that are complete with no component removed or missing (e.g., solar PV modules that are non-functional and which contain glass panes on one or both sides of the module, where the glass may have been that are cracked or otherwise damaged, and provided that the size and shape of such a the module or cell remains identical to those of a newly installed solar PV module or of a cell from a newly disassembled module, respectively, regardless of whether the PV modules or cells are functional or nonfunctional. "Intact" solar PV modules also include solar~~

~~(ii) PV modules that do not contain glass and which are otherwise non-functional (e.g., flexible membrane solar PV modules).~~

~~(3) (B) A "Removed intact PV module components" "Removed intact PV module components" means frames, junction boxes, wires, and cables that are intact and have been removed from PV modules.~~

~~(b) "Solar PV module" excludes all of the followingDoes not mean:~~

~~(1) physically-damaged, -deteriorated, or -altered solar PV modules (or components thereof), including that are no longer recognizable as intact solar PV modules, as defined in subsection (a) of this section.~~

~~(2) fractured or fragmented portions of a solar PV module, although that are no longer recognizable as being part of a solar PV module, which are no longer attached to an intact solar PV module, as defined in subsection (a) of this section.~~

~~(3) solar-powered electronic devices that have one or more solar photovoltaic cells incorporated into their structures.~~

"Thermometer" means any thermometer that uses the expansion and contraction of a column of mercury to measure temperature.

NOTE: Authority cited: Sections 25141, 25150, 25214.6, 25150.6, 25201, 25214.9, 25219.1 and 58012, Health and Safety Code; and Section 42475, Public Resources Code. Reference: Sections 25141, 25150, 25159.5, 25201, 25212, 25214.6, 25214.9, 25219, 25219.1 and 25219.2, Health and Safety Code; 40 CFR Sections 261.4, 261.5 and 273.9.

Amend California Code of Regulations, title 22, division 4.5, chapter 23, article 3, section 66273.32 to read:

§ 66273.32. USEPA Notification, Department Notification, and Reporting Requirements for Universal Waste Handlers.

(a) USEPA notification requirements.

(f) Written submissions. If submitted in writing, Department notifications and annual reports required pursuant to subsections (c) and (d) of this section shall be sent to the Department by certified mail, return receipt requested, at the following address: Department of Toxic Substances Control, Universal Waste Notification and Reporting Staff, P.O. Box 806, Sacramento, CA 95812-0806, with the words "Attention: Universal Waste Handling Activities" prominently displayed on the front of the envelope.

(g) Department notification requirement for universal waste handlers of ~~solar~~ PV modules.

(1) Any universal waste handler of ~~solar~~ PV modules who accepts more than 10,000 kilograms (or 22,000 pounds) of ~~solar~~ PV modules from all offsite sources in a calendar year, calculated collectively, or who conducts manual disassembly of PV modules pursuant to subsection (d)(2) of section 66273.33 of this division shall submit to the Department at the address provided in subsection (f) of this section, a written notification containing the information specified in subsection (g)(2) of this section no later than the earlier of the following dates, if applicable:

(A) 30 calendar days ~~from~~ after the date the 10,000 kilogram quantity is reached.
or

(B) 30 calendar days prior to commencing manual disassembly activities pursuant to subsection (d)(2) of section 66273.33 of this division.

(2) This notification shall include:

(A) Name of universal waste handler (if the facility owner is different than the facility operator, also include the owner's name);

(B) ID Number of the universal waste handler, if applicable;

(C) Telephone number of universal waste handler;

(D) Mailing address of universal waste handler and physical address, if different from the mailing address, including county;

(E) Name of the contact person at the universal waste handler's site who should be contacted regarding universal waste management activities;

(F) Telephone number of the contact person;

(G) An e-mail address for the contact person or organization, if available;

(H) The types of ~~solar~~ PV modules accepted (e.g., thin-film CdTe/CdS, thin-film CIGS/CdS, thin-film amorphous silicon, thin-film CIGS/InP, crystalline silicon, etc.); and

(I) The sources of the ~~solar~~ PV modules (e.g., residential, commercial, governmental decommissions, etc.); and

(J) An indication, if applicable, that the universal waste handler intends to perform physical separation activities pursuant to the subsection (d)(2) of section 66273.33 of this division.

(3) Universal waste handlers shall provide to the Department any changes to the information provided pursuant to subsections (g)(1) and (g)(2) of this section within 30 days of such changes.

Note: Authority cited: Sections 25141, 25150, 25201, 25214.9, 25219.1 and 58012, Health and Safety Code; and Section 42475, Public Resources Code. Reference: Sections 25141, 25150, 25159.5, 25201, 25214.9, 25219, 25219.1 and 25219.2, Health and Safety Code; and 40 CFR Section 273.32.

Amend California Code of Regulations, title 22, division 4.5, chapter 23, article 3, section 66273.33 to read:

§ 66273.33. Universal Waste Management Requirements for Batteries, Lamps, and Mercury-Containing Equipment, and ~~Solar~~ PV Modules.

The requirements of this section apply only to universal waste handlers of batteries, lamps (including M003 wastes that contain lamps), PV modules, and mercury-containing equipment. The corresponding requirements for universal waste handlers of electronic devices, CRTs, and CRT glass are set forth in section 66273.33.5. Handlers of universal wastes that are both electronic devices and M003 wastes [e.g., an electronic device that contains a lamp [an M003 waste]] shall comply with this section and section 66273.33.5 for the management of those universal wastes. However, once lamp removal is completed on such waste, such waste shall no longer be managed as M003 waste and it shall be managed as an electronic device pursuant to section 66273.33.5, if applicable.

(d) ~~Solar~~ PV modules.

(1) A universal waste handler of ~~solar~~ PV modules shall:

~~(A) Comply with the applicable requirements of sections 66273.30 through 66273.32, and of sections 66273.34 through 66273.39 of this article with respect to the management of these solar PV modules; and~~

~~(B) Manage ~~solar~~ PV modules in a way that prevents releases of any universal waste or component of a universal waste to the environment under reasonably foreseeable conditions, as follows:~~

~~(A) 1.a. A universal waste handler shall contain any ~~solar~~ PV module in a manner that prevents breakage and release of hazardous components to the environment. If a container is used, such a container shall prevent leakage, spillage, or damage that could cause leakage of hazardous components under reasonably foreseeable conditions.~~

~~(B) 1.b. Intact ~~solar~~ PV modules (i.e., ~~solar~~ PV modules that are complete with no component removed or missing) or removed intact PV module components that are managed in a manner that prevents breakage and release of hazardous components to the environment under reasonably foreseeable conditions (e.g., placed in shipping boxes and/or secured by stretch-film on a pallet) shall be deemed to comply with subsection (d)(1)(B)1.a. of this section.~~

~~(C) 2. A universal waste handler shall immediately clean up and place in a container any ~~solar~~ PV module that is accidentally or unintentionally broken and which may be expected to cause a release of hazardous constituents to the environment under reasonably foreseeable conditions. The container shall be structurally sound, compatible with the contents of the ~~solar~~ PV modules, and shall prevent releases of hazardous components to the environment under reasonably foreseeable conditions.~~

~~(2) (A) A universal waste handler may remove junction boxes, and junction box cables, wires, frames, and other components, and may disassemble PV modules into individual components, modules, or cells provided that the universal waste handler complies with the notification requirements specified in subsection (g)(1)(B) of section~~

66273.32 and ensures that: as long as the solar PV module remains intact (i.e., solar PV modules that are complete with no component removed or

(A) Hazardous constituents will not be released to the environment under reasonably foreseeable conditions;

(B) Persons performing such removal and disassembly activities are thoroughly familiar with the techniques and safety precautions required to perform such activities safely; and

(C) Disassembly activities are conducted in designated and labeled areas of the universal waste handler's facility.

Note: Authority cited: Sections 25141, 25150, 25201, 25214.6, 25214.9, 25219.1 and 58012, Health and Safety Code; and Section 42475, Public Resources Code.

Reference: Sections 25141, 25150, 25159.5, 25201, 25212, 25214.6, 25214.9, 25219, 25219.1 and 25219.2, Health and Safety Code; 40 CFR Section 273.33.

Amend California Code of Regulations, title 22, division 4.5, chapter 23, article 3, section 66273.34 to read:

§ 66273.34. Labeling/Marking.

Except as otherwise provided in subsections ~~(gh)~~ and ~~(i)~~ of this section, a universal waste handler shall label or mark universal waste to identify the type of universal waste as specified in subsections (a) through ~~(fg)~~ of this section.

~~(g) Solar PV modules (i.e., each solar PV module), or a container or pallet in or on which the solar PV modules are contained, shall be labeled or marked clearly with the following phrase: "Universal Waste-Solar PV Module(s)".~~

~~(g)~~ ~~(h)~~ In lieu of labeling individual electronic devices, CRTs, and/or containers of CRT glass pursuant to subsections (d) through (f) of this section, a universal waste handler may combine, package, and accumulate those universal wastes in appropriate containers or within a designated area demarcated by boundaries that are clearly labeled with the applicable portion(s) of the following phrase: "Universal Waste-Electronic Device(s)/Universal Waste -CRT(s)/Universal Waste-CRT Glass".

~~(i)~~ In lieu of labeling individual ~~solar PV~~ modules and/or containers or pallets of ~~solar PV~~ modules pursuant to subsection (g) of this section, a universal waste handler may accumulate ~~solar PV~~ modules within a designated area demarcated by boundaries that are clearly labeled with the following phrase: "Universal Waste—~~Solar PV~~ Module(s)".

Note: Authority cited: Sections 25141, 25150, 25201, 25214.6, 25214.9, 25219.1 and 58012, Health and Safety Code; and Section 42475, Public Resources Code.
Reference: Sections 25141, 25150, 25159.5, 25201, 25212, 25214.6, 25214.9, 25219, 25219.1 and 25219.2, Health and Safety Code; 40 CFR Section 273.34.

Amend California Code of Regulations, title 22, division 4.5, chapter 23, article 3, section 66273.36 to read:

§ 66273.36. Personnel Training.

(a) A universal waste handler shall ensure that all personnel who manage universal wastes at the universal waste handler's facility are thoroughly familiar with proper universal waste management and emergency response procedures relative to those persons' responsibilities, as specified in subsections (b) and (c) of this section.

(1) For purposes of this section, "personnel who manage universal waste" means any persons who consolidate, sort, treat, recycle, package for transport, offer for transport, or physically relocate containers of universal waste.

(2) Persons who, in the course of their normal duties, only generate universal wastes from onsite sources and place them into accumulation containers, areas or locations are not "personnel who manage universal waste" (e.g., an office worker who removes spent batteries from an electronic device).

(b) A universal waste handler shall initially train and provide annually, thereafter, training to all personnel who manage or who supervise those who manage universal wastes. Training materials shall be in the form of any written media (e.g., brochures, electronic mail, company letters, pamphlets, posters, etc.) and shall include the date of that material. This training shall include, at a minimum:

(1) The types and hazards associated with the universal waste that personnel may manage at the facility (e.g., hazards due to leaded glass in CRT devices or CRTs; hazards due to cadmium, lead, or selenium in ~~color~~ PV modules);

Note: Authority cited: Sections 25141, 25150, 25219.1 and 58012, Health and Safety Code; and Section 42475, Public Resources Code. Reference: Sections 25141, 25150, 25159.5, 25219, 25219.1 and 25219.2, Health and Safety Code; 40 CFR Section 273.36.

Amend California Code of Regulations, title 22, division 4.5, chapter 23, article 3, section 66273.39 to read:

§ 66273.39. Tracking Universal Waste Shipments.

(a) Receipt of shipments. A universal waste handler shall keep a record of each shipment of universal waste received at the universal waste handler's facility. The record may take the form of a log, invoice, manifest, bill of lading, or other shipping document. The record for each shipment of universal waste received shall include the following information:

(1) The name and address of the originating universal waste handler from which the universal waste was sent;

(2) The quantity [count or weight, consistent with, for example, section 66273.32, subsection (d)] of each type of universal waste received (e.g., batteries, thermostats, lamps, electronic devices, CRTs, CRT glass, ~~solar~~ PV modules); and

(3) The date of receipt of the shipment of universal waste.

(c) Shipments offsite. A universal waste handler shall keep a record of each shipment of universal waste sent from the universal waste handler's facility to another facility. The record may take the form of a log, invoice, manifest, bill of lading or other shipping document. The record for each shipment of universal waste sent shall include the following information:

(1) The name and address of the universal waste handler or destination facility to which the universal waste was sent;

(2) The quantity [count or weight, consistent with, for example, section 66273.32, subsection (d)] of each type of universal waste sent (e.g., batteries, thermostats, lamps, electronic devices, CRTs, CRT glass, ~~solar~~ PV modules);

(3) The date of departure of the shipment of universal waste.

Note: Authority cited: Sections 25141, 25150, 25150.6, 25219.1, 25219.2 and 58012, Health and Safety Code. Reference: Sections 25141, 25150, 25159.5, 25219, 25219.1 and 25219.2, Health and Safety Code; 40 CFR Section 273.39.

Amend California Code of Regulations, title 22, division 4.5, chapter 23, article 5, section 66273.51 to read:

Article 5. Standards for Universal Waste Transporters

§ 66273.51. Prohibitions.

A universal waste transporter is:

- (a) Prohibited from disposing of universal waste;
- (b) Prohibited from diluting or treating universal waste, except as a consequence of responding to a release as provided in section 66273.54;
- (c) Prohibited from transporting more than five CRTs at any one time unless the CRTs are contained as described in section 66273.33.5, subsection (b)(1)(B); and
- (d) Prohibited from transporting more than 100 kilograms or 220 pounds of electronic devices at any one time unless the electronic devices are contained as described in section 66273.33.5, subsection (a)(1)(B).
- (e) Prohibited from transporting more than 100 kilograms or 220 pounds of ~~solar~~ PV modules at any one time unless the ~~solar~~ PV modules are contained as described in section 66273.33, subsection (d)(1)(B).

Note: Authority cited: Sections 25141, 25150, 25150.6, 25201, 25214.9, 25219.1 and 58012, Health and Safety Code; and Section 42475, Public Resources Code.
Reference: Sections 25141, 25150, 25159.5, 25201, 25214.9, 25219, 25219.1 and 25219.2, Health and Safety Code; and 40 CFR Section 273.51.